

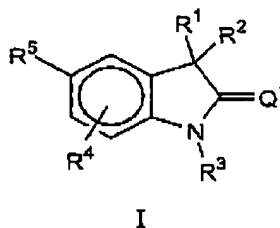
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## AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1(Original). A method of treating acne and/or hirsutism comprising the step of delivering to a mammal in need thereof a composition comprising a compound of formula I, or a tautomer thereof, and a physiologically compatible carrier, wherein formula I is:



wherein:

$R^1$  and  $R^2$  are selected from the group consisting of H, alkyl, substituted alkyl, OH, O(alkyl), O(substituted alkyl), O(Acetyl), aryl, substituted aryl, heterocyclic ring, substituted heterocyclic ring, alkylaryl, substituted alkylaryl, alkylheteroaryl, substituted alkylheteroaryl, 1-propynyl, substituted 1-propynyl, 3-propynyl, and substituted 3-propynyl;

or  $R^1$  and  $R^2$  are joined to form a ring selected from the group consisting of  $-\text{CH}_2(\text{CH}_2)_n\text{CH}_2-$ ,  $-\text{CH}_2\text{CH}_2\text{C}(\text{CH}_3)_2\text{CH}_2\text{CH}_2-$ ,  $-\text{O}(\text{CH}_2)_m\text{CH}_2-$ ,  $-\text{O}(\text{CH}_2)_p\text{O}-$ ,  $-\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_2-$ ,  $-\text{CH}_2\text{CH}_2\text{N}(\text{H})\text{CH}_2\text{CH}_2-$ , and  $-\text{CH}_2\text{CH}_2\text{N}(\text{alkyl})\text{CH}_2\text{CH}_2-$ ;

$m$  is an integer from 1 to 4;

$n$  is an integer from 1 to 5;

$p$  is an integer from 1 to 4;

or  $R^1$  and  $R^2$  form a double bond to  $\text{C}(\text{CH}_3)_2$ ,  $\text{C}(\text{cycloalkyl})$ , O, or  $\text{C}(\text{cycloether})$ ;

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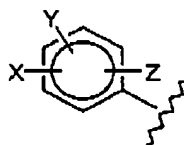
$R^3$  is selected from the group consisting of H, OH,  $NH_2$ ,  $C_1$  to  $C_6$  alkyl, substituted  $C_1$  to  $C_6$  alkyl,  $C_3$  to  $C_6$  alkenyl, substituted  $C_3$  to  $C_6$  alkenyl, alkynyl, substituted alkynyl, and  $COR^A$ ;

$R^A$  is selected from the group consisting of H,  $C_1$  to  $C_3$  alkyl, substituted  $C_1$  to  $C_3$  alkyl,  $C_1$  to  $C_3$  alkoxy, substituted  $C_1$  to  $C_3$  alkoxy,  $C_1$  to  $C_3$  aminoalkyl, and substituted  $C_1$  to  $C_3$  aminoalkyl;

$R^4$  is selected from the group consisting of H, halogen, CN,  $NH_2$ ,  $C_1$  to  $C_6$  alkyl, substituted  $C_1$  to  $C_6$  alkyl,  $C_1$  to  $C_6$  alkoxy, substituted  $C_1$  to  $C_6$  alkoxy,  $C_1$  to  $C_6$  aminoalkyl, and substituted  $C_1$  to  $C_6$  aminoalkyl;

$R^5$  is selected from the group consisting of a), b) and c):

a) a substituted benzene ring having the structure:



X is selected from the group consisting of halogen, OH, CN,  $C_1$  to  $C_3$  alkyl, substituted  $C_1$  to  $C_3$  alkyl,  $C_1$  to  $C_3$  alkoxy, substituted  $C_1$  to  $C_3$  alkoxy,  $C_1$  to  $C_3$  thioalkyl, substituted  $C_1$  to  $C_3$  thioalkyl,  $S(O)alkyl$ ,  $S(O)_2alkyl$ ,  $C_1$  to  $C_3$  aminoalkyl, substituted  $C_1$  to  $C_3$  aminoalkyl,  $NO_2$ ,  $C_1$  to  $C_3$  perfluoroalkyl, substituted  $C_1$  to  $C_3$  perfluoroalkyl, 5 or 6 membered heterocyclic ring having 1 to 3 heteroatoms,  $CONH_2$ ,  $CSNH_2$ ,  $CNHNHOH$ ,  $CNH_2NOH$ ,  $CNHNHOH$ ,  $COR^B$ ,  $CSR^B$ ,  $OCOR^B$ , and  $NR^C COR^B$ ;

$R^B$  is selected from the group consisting of H,  $C_1$  to  $C_3$  alkyl, substituted  $C_1$  to  $C_3$  alkyl, aryl, substituted aryl,  $C_1$  to  $C_3$  alkoxy, substituted  $C_1$  to  $C_3$  alkoxy,  $C_1$  to  $C_3$  aminoalkyl, and substituted  $C_1$  to  $C_3$  aminoalkyl;

$R^C$  is H,  $C_1$  to  $C_3$  alkyl, or substituted  $C_1$  to  $C_3$  alkyl;

Y and Z are independently selected from the group consisting of H, halogen, CN,  $NO_2$ ,  $C_1$  to  $C_3$  alkoxy, substituted  $C_1$  to  $C_3$  alkoxy,  $C_1$  to  $C_4$  alkyl, substituted  $C_1$  to  $C_4$  alkyl,  $C_1$  to  $C_3$  thioalkyl, and substituted  $C_1$  to  $C_3$  thioalkyl;

b) a five or six membered heterocyclic ring comprising 1, 2, or 3 heteroatoms selected from the group consisting of O, S, SO,  $SO_2$  and  $NR^6$  and having one or two

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independent substituents from the group consisting of H, halogen, CN, NO<sub>2</sub>, C<sub>1</sub> to C<sub>4</sub> alkyl, substituted C<sub>1</sub> to C<sub>4</sub> alkyl, C<sub>1</sub> to C<sub>3</sub> alkoxy, substituted C<sub>1</sub> to C<sub>3</sub> alkoxy, C<sub>1</sub> to C<sub>3</sub> aminoalkyl, substituted C<sub>1</sub> to C<sub>3</sub> aminoalkyl, COR<sup>D</sup>, CSR<sup>D</sup>, and NR<sup>E</sup>COR<sup>D</sup>;

R<sup>D</sup> is H, NH<sub>2</sub>, C<sub>1</sub> to C<sub>3</sub> alkyl, substituted C<sub>1</sub> to C<sub>3</sub> alkyl, aryl, substituted aryl, C<sub>1</sub> to C<sub>3</sub> alkoxy, substituted C<sub>1</sub> to C<sub>3</sub> alkoxy, C<sub>1</sub> to C<sub>3</sub> aminoalkyl, or substituted C<sub>1</sub> to C<sub>3</sub> aminoalkyl;

R<sup>E</sup> is H, C<sub>1</sub> to C<sub>3</sub> alkyl, or substituted C<sub>1</sub> to C<sub>3</sub> alkyl;

R<sup>F</sup> is H, C<sub>1</sub> to C<sub>3</sub> alkyl, substituted C<sub>1</sub> to C<sub>3</sub> alkyl, or C<sub>1</sub> to C<sub>4</sub>CO<sub>2</sub>alkyl; or

c) an indol-4-yl, indol-7-yl or benzo-2-thiophene moiety, wherein said moiety is optionally substituted by from 1 to 3 substituents selected from the group consisting of halogen, alkyl, substituted alkyl, CN, NO<sub>2</sub>, alkoxy, substituted alkoxy, and CF<sub>3</sub>;

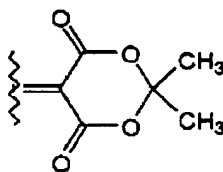
Q<sup>i</sup> is S, NR<sup>7</sup>, or CR<sup>8</sup>R<sup>9</sup>;

R<sup>7</sup> is selected from the group consisting of CN, C<sub>1</sub> to C<sub>6</sub> alkyl, substituted C<sub>1</sub> to C<sub>6</sub> alkyl, C<sub>3</sub> to C<sub>8</sub> cycloalkyl, substituted C<sub>3</sub> to C<sub>8</sub> cycloalkyl, aryl, substituted aryl, heterocyclic ring, substituted heterocyclic ring, acyl, substituted acyl, aroyl, substituted aroyl, SO<sub>2</sub>CF<sub>3</sub>, OR<sup>11</sup>, and NR<sup>11</sup>R<sup>12</sup>;

R<sup>8</sup> and R<sup>9</sup> are independent substituents selected from the group consisting of H, alkyl, substituted alkyl, acyl, substituted acyl, aroyl, substituted aroyl, C<sub>3</sub> to C<sub>8</sub> cycloalkyl, substituted C<sub>3</sub> to C<sub>8</sub> cycloalkyl, aryl, substituted aryl, heterocyclic ring, substituted heterocyclic ring, NO<sub>2</sub>, CN, and CO<sub>2</sub>R<sup>10</sup>;

R<sup>10</sup> is C<sub>1</sub> to C<sub>3</sub> alkyl or substituted C<sub>1</sub> to C<sub>3</sub> alkyl;

or CR<sup>8</sup>R<sup>9</sup> comprise a six membered ring having the structure:



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$R^{11}$  and  $R^{12}$  are independently selected from the group consisting of H, alkyl, substituted alkyl, aryl, substituted aryl, heterocyclic ring, substituted heterocyclic ring, acyl, substituted acyl, aroyl, substituted aroyl, sulfonyl, and substituted sulfonyl; or a pharmaceutically acceptable salt, tautomer, metabolite, or prodrug thereof.

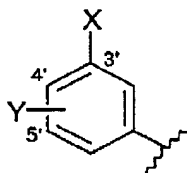
2(Original). The method according to Claim 1, wherein:

$R^1$  and  $R^2$  are joined to form a  $-\text{CH}_2(\text{CH}_2)_n\text{CH}_2-$  ring;

n is 3;

$R^3$  and  $R^4$  are H;

$R^5$  is the substituted benzene ring having the structure:



X is selected from the group consisting of halogen, CN,  $\text{CONH}_2$ ,  $\text{CSNH}_2$ ,  $\text{COR}^B$ ,  $\text{CSR}^B$ ,  $\text{C}_1$  to  $\text{C}_3$  alkoxy,  $\text{C}_1$  to  $\text{C}_3$  alkyl,  $\text{NO}_2$ ,  $\text{C}_1$  to  $\text{C}_3$  perfluoroalkyl, 5 membered heterocyclic ring comprising 1 to 3 heteroatoms, and  $\text{C}_1$  to  $\text{C}_3$  thioalkyl;

$R^B$  is  $\text{C}_1$  to  $\text{C}_3$  aminoalkyl or substituted  $\text{C}_1$  to  $\text{C}_3$  aminoalkyl, wherein said aminoalkyl is  $\text{NH}(\text{alkyl})$  or  $\text{N}(\text{alkyl})_2$ ;

Y is selected from the group consisting of H, halogen, CN,  $\text{NO}_2$ ,  $\text{C}_1$  to  $\text{C}_3$  alkoxy,  $\text{C}_1$  to  $\text{C}_4$  alkyl, and  $\text{C}_1$  to  $\text{C}_3$  thioalkyl.

3(Original). The method according to Claim 1, wherein:

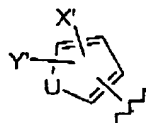
$R^1$  and  $R^2$  are joined to form the  $-\text{CH}_2(\text{CH}_2)_n\text{CH}_2-$  ring;

n is 3;

$R^3$  and  $R^4$  are H;

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$R^5$  is the five membered ring having the structure:



U is O, S, or  $NR^6$ ;

$X'$  is selected from the group consisting of halogen, CN,  $NO_2$ ,  $CONH_2$ ,  $CSNH_2$ ,  $COR^B$ ,  $CSR^B$ ,  $C_1$  to  $C_3$  alkyl, and  $C_1$  to  $C_3$  alkoxy;

$R^B$  is  $C_1$  to  $C_3$  aminoalkyl or substituted  $C_1$  to  $C_3$  aminoalkyl, wherein said aminoalkyl is  $NH(alkyl)$  or  $N(alkyl)_2$ ;

$Y'$  is selected from the group consisting of H, halogen, and  $C_1$  to  $C_4$  alkyl, wherein said halogen is F.

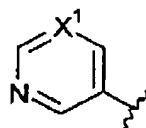
4(Original). The method according to Claim 1, wherein:

$R^1$  and  $R^2$  are joined to form a  $-CH_2(CH_2)_nCH_2-$  ring;

n is 3;

$R^3$  and  $R^4$  are H;

$R^5$  is the six membered ring having the structure:



$X'$  is N or  $CX^2$ ;

$X^2$  is halogen, CN,  $CONH_2$ ,  $CSNH_2$ ,  $COR^B$ ,  $CSR^B$ , or  $NO_2$ ;

$R^B$  is  $C_1$  to  $C_3$  aminoalkyl or substituted  $C_1$  to  $C_3$  aminoalkyl, wherein said aminoalkyl is  $NH(alkyl)$  or  $N(alkyl)_2$ .

5(Original). The method according to claim 1, wherein:

$R^1$  and  $R^2$  are alkyl or substituted alkyl;

$R^3$  is H.

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6(Original). The method according to claim 1, wherein:

$R^1$  and  $R^2$  are joined to form a ring selected from the group consisting of  $-\text{CH}_2(\text{CH}_2)_n\text{CH}_2-$ ,  $-\text{CH}_2\text{CH}_2\text{C}(\text{CH}_3)_2\text{CH}_2\text{CH}_2-$ ,  $-\text{O}(\text{CH}_2)_m\text{CH}_2-$ ,  $-\text{O}(\text{CH}_2)_p\text{O}-$ ,  $-\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_2-$ ,  $-\text{CH}_2\text{CH}_2\text{N}(\text{H})\text{CH}_2\text{CH}_2-$ , and  $-\text{CH}_2\text{CH}_2\text{N}(\text{alkyl})\text{CH}_2\text{CH}_2-$ ;  
 $R^3$  is H.

7(Original). The method according to claim 1, wherein:

$R^3$  is H;

$Q^1$  is S or  $\text{NR}^7$ .

8(Original). The method according to claim 1, wherein the compound is delivered orally.

9(Currently Amended). The method according to ~~claims~~ claim 1, wherein said compound of formula I is selected from the group consisting of 5'-(3-Chlorophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'(1'H)-thione, 3-(1',2'-Dihydro-2'-thioxospiro[cyclohexane-1,3'-[3H]indol]-5'-yl)benzonitrile, 4-1',2'-Dihydro-2'-thioxospiro[cyclohexane-1,3'-[3H]indol]-5'-yl)-2-thiophenecarbonitrile, 3-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-5-fluorobenzonitrile, 4-Methyl-5-(1,2-dihydro-2-thioxospiro[cyclohexane-1,3-[3H]-indol]-5-yl)-2-thiophenethioamide, 5-(1,2-Dihydro-2-thioxospiro[cyclopentane-1,3-[3H]indol]-5'-yl)-1H-pyrrole-2-carbonitrile, 5-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-1-(tert-butoxycarbonyl)-pyrrole-2-carbonitrile, 5-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-1-H-pyrrole-2-carbonitrile, 5-(2'-thioxospiro[cyclohexane-1,3'-[3H]indol]-5'-yl)-1-methylpyrrole-2-carbonitrile, 5-(1,2-Dihydro-2-thioxospiro[cyclopentane-1,3-[3H]indol]-5-yl)-3thiophenecarbonitrile, 5-(1,2-Dihydro-thioxospiro[cyclopentane-1,3-[3H]indol]-5-yl)-2thiophenecarbonitrile, 5-(3-Fluoro-4-methoxyphenyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 5-(2-Amino-5-pyrimidinyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 3-(1,2-Dihydro-2-thioxospiro[cyclopentane-1,3-[3H]indol]-5-yl)-5-

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fluorobenzonitrile, 5-(3-chlorophenyl)-3,3-dimethyl-1,3-dihydro-2H-indolc-2-thione, 3-Benzyl-5-(3-chlorophenyl)-3-methyl-1,3-dihydro-2H-indole-2-thione, 4-(3,3-dimethyl-2-thioxo-2,3-dihydro-1H-indol-5-yl)-2-furonitrile, 5-(3-methoxyphenyl)-3,3-dimethyl-1,3-dihydro-2H-indolc-2-thione, 3-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-4-fluorobenzonitrile, 5-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-3-pyridinecarbonitrile, 5-(3,4-Difluorophenyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 5-(5-Chloro-2-thienyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 5-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-3-furancarbonitrile, 5-(3-Chloro-4-fluorophenyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 5-(3-Chloro-5-fluorophenyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 5-(3,5-Difluorophenyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 5-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-4-propyl-2-thiophenecarbonitrile, 5-(3-Fluoro-4-nitrophenyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 4-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-2-furancarbonitrile, 5''-(3-Chlorophenyl)spiro[cyclobutane-1,3''-[3H]indol]-2''(1''H)-thione, 5''-(2-Chlorophenyl)spiro[cyclohexane-1,3''-[3H]indol]-2''(1''H)-thione, 5''-(4-Chlorophenyl)spiro[cyclohexane-1,3''-[3H]indol]-2''(1''H)-thione, 5-(1'',2''-Dihydro-2''-thioxospiro[cyclohexane-1,3''-[3H]indol]-5''-yl)-4-methyl-2-thiophenecarbonitrile, 5-(1'',2''-Dihydro-2''-thioxospiro[cyclohexane-1,3''-[3H]indol]-5''-yl)-2-thiophenecarbonitrile, 5''-(3-Fluorophenyl)spiro[cyclohexane-1,3''-[3H]indol]-2''(1''H)-thione, 5-(3-Hydroxyphenyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 5-(3-chlorophenyl)-3,3-diethyl-1,3-dihydro-2H-indole-2-thione, 5-(4-Fluoro-3-(trifluoromethyl)phenyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 4-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-2-fluorobenzonitrile, 5-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-4-n-butyl-2-thiophenecarbonitrile, 5-(3-Fluoro-5-methoxyphenyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 5-(3-Chlorophenyl)-N-hydroxyspiro[cyclohexane-1,3'-[3H]indol]-2-amine, N-(Acetyloxy)-5'-(3-chlorophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2''amine, 5'-(3-Fluorophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'(1'H)-one oxime, 5'-(2-

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Fluorophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'(1'H)-one oxime, 5'-(4-Fluorophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'(1'H)-one oxime, 5'-(3,4-difluorophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'(1'H)-one oxime, 5'-(3-methoxyphenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'(1'H)-one oxime, 5'-(3-nitrophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'(1'H)-one oxime, 5'-(3-cyanophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'(1'H)-one oxime, 3-(1',2'-Dihydro-2'-(hydroxyimino)spiro[cyclohexane-1,3'-[3H]indol]-5'-yl)-5-fluorobenzonitrile, 5-(Spiro[cyclohexane-1,3'-[3H]indol]-2'-(hydroxyimino)-5'-yl)-4-methyl-2-thiophenecarbonitrile, 5-(Spiro[cyclohexane-1,3'-[3H]indol]-2'-(hydroxyimino)-5'-yl)-2-thiophenecarbonitrile, 4-(Spiro[cyclohexane-1,3'-[3H]indol]-2'-(hydroxyimino)-5'-yl)-2-thiophenecarbonitrile, 5-(Spiro[cyclohexane-1,3'-[3H]indol]-2'-(hydroxyimino)-5'-yl)-1H-pyrrole-1-methyl-2-carbonitrile, 5-(spiro[cyclohexane-1,3'-[3H]indol]-2'-(hydroxyimino)-5'-yl)-1H-pyrrole-2-carbonitrile, 4-(Spiro[cyclohexane-1,3'-[3H]indol]-2'(acetoxymino)-5'-yl)-2-thiophenecarbonitrile, 3-Fluoro-N'-hydroxy-5-(2'-(hydroxyamino)spiro[cyclohexane-1,3'-[3H]indol]-5'-yl)benzenecarboximidamide, N'-Hydroxy-5-(spiro[cyclohexane-1,3'-[3H]indol]-2'-(hydroxyimino)-5'-yl)-4-methyl-2-thiophenecarboximidamide, N'-Hydroxy-4-(spiro[cyclohexane-1,3'-[3H]indol]-2'-hydroxyimino)-5'-yl-2-thiophenecarboximidamide, N'-Hydroxy-5-(spiro[cyclohexane-1,3'-[3H]indol]-2'-(hydroxyimino)-5'-yl)-2-thiophenecarboximidamide, 5'-(3-Chlorophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'-ylidenecyanamide, 5'-(3-Cyano-5-fluorophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'-ylidenecyanamide, 5'-(5-Cyano-1H-pyrrol-2-yl)spiro[cyclohexane-1,3'-[3H]indol]-2'-ylidenecyanamide, 5'-(5-Cyano-thiophen-2-yl)spiro[cyclohexane-1,3'-[3H]indol]-2'-ylidenecyanamide, 5'-(5-Cyano-3-methyl-thiophen-2-yl)spiro[cyclohexane-1,3'-[3H]indol]-2'-ylidenecyanamide, 5'-(5-Cyano-thiophen-3-yl)spiro[cyclohexane-1,3'-[3H]indol]-2'-ylidenecyanamide, 3-(2'-Cyanomethylene-spiro[cyclohexane-1,3'-[3H]indol]-5'-yl)-5-fluoro-benzonitrile, 5-(2'-Cyanomethylene-spiro[cyclohexane-1,3'-[3H]indol]-5'-yl)-1H-pyrrole-2-carbonitrile, 5-(2'-Cyanomethylene-spiro[cyclohexane-1,3'-[3H]indol]-5'-yl)-1-methyl-1H-pyrrole-2-

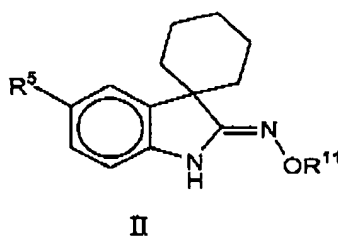


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carbonitrile, 5-(2'-Cyanomethylene-spiro[cyclohexane-1,3'-[3H]indol]-5'-yl)-thiophene-2-carbonitrile, 5-(2'-Cyanomethylene-spiro[cyclohexane-1,3'-[3H]indol]-5'-yl)-4-methyl-thiophene-2-carbonitrile, and 4-(2'-Cyanomethylene-spiro[cyclohexane-1,3'-[3H]indol]-5'-yl)-thiophene-2-carbonitrile, or a pharmaceutically acceptable salt, tautomer, metabolite, or prodrug thereof.

10(Currently Amended). The method according to ~~claims~~ claim 1, wherein said compound is 5'-(5-Cyano-1-methyl-1H-pyrrol-2-yl)spiro[cyclohexane-1,3'-[3H]indol]-2'-ylidenecyanamide, or a pharmaceutically acceptable salt, tautomer, metabolite, or prodrug thereof.

11(Original). A method of treating acne and/or hirsutism comprising the step of delivering to a mammal in need thereof a composition comprising a compound of formula II, or a tautomer thereof, and a physiologically compatible carrier, wherein formula II is:

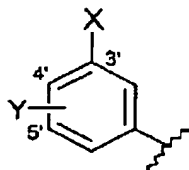


wherein:

R<sup>11</sup> is selected from the group consisting of H, acyl, substituted acyl, aroyl, substituted aroyl, sulfonyl, and substituted sulfonyl;

R<sup>5</sup> is (i), (ii), or (iii):

(i) a substituted benzene ring having the structure:



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wherein:

X is selected from the group consisting of halogen, CN, CONH<sub>2</sub>, CSNH<sub>2</sub>, CONHalkyl, CSNHalkyl, CON(alkyl)<sub>2</sub>, CSN(alkyl)<sub>2</sub>, CNHNHOH, CNH<sub>2</sub>NOH, C<sub>1</sub> to C<sub>3</sub> alkoxy, C<sub>1</sub> to C<sub>3</sub> alkyl, NO<sub>2</sub>, C<sub>1</sub> to C<sub>3</sub> perfluoroalkyl, 5 membered heterocyclic ring comprising 1 to 3 heteroatoms, and C<sub>1</sub> to C<sub>3</sub> thioalkyl;

Y is selected from the group consisting of H, halogen, CN, NO<sub>2</sub>, C<sub>1</sub> to C<sub>3</sub> alkoxy, C<sub>1</sub> to C<sub>4</sub> alkyl, and C<sub>1</sub> to C<sub>3</sub> thioalkyl;

(ii) a five membered ring having the structure:



wherein:

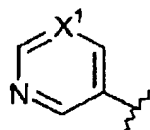
U is O, S, or NR<sup>6</sup>;

R<sup>6</sup> is H, C<sub>1</sub> to C<sub>3</sub> alkyl, or C<sub>1</sub> to C<sub>4</sub> CO<sub>2</sub>alkyl;

X' is selected from the group consisting of halogen, CN, NO<sub>2</sub>, CONH<sub>2</sub>, CNHNHOH, CNH<sub>2</sub>NOH, CSNH<sub>2</sub>, CONHalkyl, CSNHalkyl, CON(alkyl)<sub>2</sub>, CSN(alkyl)<sub>2</sub>, C<sub>1</sub> to C<sub>3</sub> alkyl, and C<sub>1</sub> to C<sub>3</sub> alkoxy;

Y' is selected from the group consisting of H, F, and C<sub>1</sub> to C<sub>4</sub> alkyl; or

(iii) a six membered ring having the structure:



wherein:

X<sup>1</sup> is N or CX<sup>2</sup>;

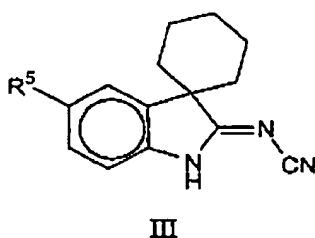
X<sup>2</sup> is halogen, CN, CONH<sub>2</sub>, CSNH<sub>2</sub>, CONHalkyl, CSNHalkyl, CON(alkyl)<sub>2</sub>, CSN(alkyl)<sub>2</sub> or NO<sub>2</sub>;

or a pharmaceutically acceptable salt, tautomer, metabolite, or prodrug thereof.

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12(Original). The method according to claim 11, wherein  $R^5$  is said five membered ring and U is O or S.

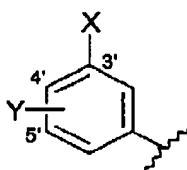
13(Original). A method of treating acne and/or hirsutism comprising the step of delivering to a mammal in need thereof a composition comprising a compound of formula III, or a tautomer thereof, and a physiologically compatible carrier, wherein formula III is:



wherein:

$R^5$  is (i), (ii), or (iii):

(i) a substituted benzene ring having the structure:



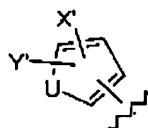
wherein:

X is selected from the group consisting of halogen, CN,  $\text{CONH}_2$ ,  $\text{CSNH}_2$ ,  $\text{CONHalkyl}$ ,  $\text{CSNHalkyl}$ ,  $\text{CON(alkyl)}_2$ ,  $\text{CSN(alkyl)}_2$ ,  $\text{CNHNOH}$ ,  $\text{C}_1$  to  $\text{C}_3$  alkoxy,  $\text{C}_1$  to  $\text{C}_3$  alkyl,  $\text{NO}_2$ ,  $\text{C}_1$  to  $\text{C}_3$  perfluoroalkyl, 5 membered heterocyclic ring comprising 1 to 3 heteroatoms, and  $\text{C}_1$  to  $\text{C}_3$  thioalkyl;

Y is selected from the group consisting of H, halogen, CN,  $\text{NO}_2$ ,  $\text{C}_1$  to  $\text{C}_3$  alkoxy,  $\text{C}_1$  to  $\text{C}_4$  alkyl, and  $\text{C}_1$  to  $\text{C}_3$  thioalkyl;

(ii) a five membered ring having the structure:

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wherein:

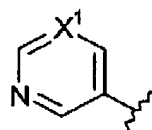
U is O, S, or NR<sup>6</sup>;

R<sup>6</sup> is H, C<sub>1</sub> to C<sub>3</sub> alkyl, or C<sub>1</sub> to C<sub>4</sub> CO<sub>2</sub>alkyl;

X' is selected from the group consisting of halogen, CN, NO<sub>2</sub>, CONH<sub>2</sub>, CSNH<sub>2</sub>, CONHalkyl, CSNHalkyl, CON(alkyl)<sub>2</sub>, CSN(alkyl)<sub>2</sub>, C<sub>1</sub> to C<sub>3</sub> alkyl, and C<sub>1</sub> to C<sub>3</sub> alkoxy;

Y' is selected from the group consisting of H, F and C<sub>1</sub> to C<sub>4</sub> alkyl; or

(iii) a six membered ring having the structure:



wherein:

X<sup>1</sup> is N or CX<sup>2</sup>;

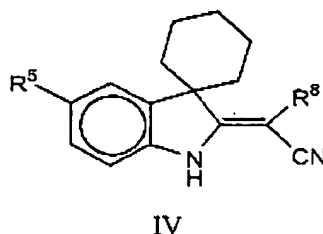
X<sup>2</sup> is halogen, CN, CONH<sub>2</sub>, CSNH<sub>2</sub>, CONHalkyl, CSNHalkyl, CON(alkyl)<sub>2</sub>, CSN(alkyl)<sub>2</sub> or NO<sub>2</sub>;

or a pharmaceutically acceptable salt, tautomer, metabolite, or prodrug thereof.

14(Original). The method according to claim 13, wherein R<sup>5</sup> is the five membered ring (ii) and U is O or S.

15(Original). A method of treating acne and/or hirsutism comprising the step of delivering to a mammal in need thereof a composition comprising a compound of formula IV, or a tautomer thereof, and a physiologically compatible carrier, wherein formula IV is:

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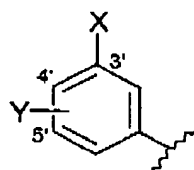
wherein:

$R^8$  is selected from the group consisting of H,  $\text{CO}_2R^{10}$ , acyl, substituted acyl, aroyl, substituted aroyl, alkyl, substituted alkyl, and CN;

$R^{10}$  is  $\text{C}_1$  to  $\text{C}_3$  alkyl;

$R^5$  is (i), (ii), or (iii):

(i) a substituted benzene ring having the structure:

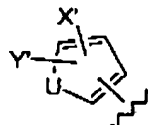


wherein:

X is selected from the group consisting of halogen, CN,  $\text{CONH}_2$ ,  $\text{CSNH}_2$ ,  $\text{CONHalkyl}$ ,  $\text{CSNHalkyl}$ ,  $\text{CON(alkyl)}_2$ ,  $\text{CSN(alkyl)}_2$ ,  $\text{CNHNOH}$ ,  $\text{C}_1$  to  $\text{C}_3$  alkoxy,  $\text{C}_1$  to  $\text{C}_3$  alkyl,  $\text{NO}_2$ ,  $\text{C}_1$  to  $\text{C}_3$  perfluoroalkyl, 5 membered heterocyclic ring comprising 1 to 3 heteroatoms, and  $\text{C}_1$  to  $\text{C}_3$  thioalkyl;

Y is selected from the group consisting of H, halogen, CN,  $\text{NO}_2$ ,  $\text{C}_1$  to  $\text{C}_3$  alkoxy,  $\text{C}_1$  to  $\text{C}_4$  alkyl, and  $\text{C}_1$  to  $\text{C}_3$  thioalkyl;

(ii) a five membered ring having the structure:



wherein:

U is O, S, or  $\text{NR}^6$ ;

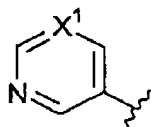
$R^6$  is H,  $\text{C}_1$  to  $\text{C}_3$  alkyl, or  $\text{C}_1$  to  $\text{C}_4$   $\text{CO}_2\text{alkyl}$ ;

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X' is selected from the group consisting of halogen, CN, NO<sub>2</sub>, CONH<sub>2</sub>, CSNH<sub>2</sub>, CONHalkyl, CSNHalkyl, CON(alkyl)<sub>2</sub>, CSN(alkyl)<sub>2</sub>, C<sub>1</sub> to C<sub>3</sub> alkyl, and C<sub>1</sub> to C<sub>3</sub> alkoxy;

Y' is selected from the group consisting of H, F and C<sub>1</sub> to C<sub>4</sub> alkyl;

(iii) a six membered ring having the structure:



wherein:

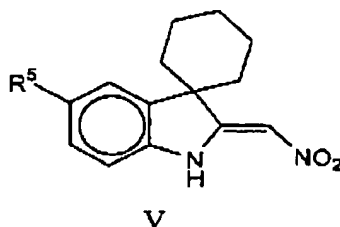
X<sup>1</sup> is N or CX<sup>2</sup>;

X<sup>2</sup> is halogen, CN, CONH<sub>2</sub>, CSNH<sub>2</sub>, CONHalkyl, CSNHalkyl, CON(alkyl)<sub>2</sub>, CSN(alkyl)<sub>2</sub> or NO<sub>2</sub>;

or a pharmaceutically acceptable salt, tautomer, metabolite, or prodrug thereof.

16(Original). The method according to claim 15, wherein R<sup>5</sup> is the five-membered ring (ii) and U is O or S.

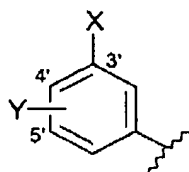
17(Original). A method of treating acne and hirsutism comprising the step of delivering to a mammal in need thereof a composition comprising a compound of formula V, or a tautomer thereof, and a physiologically compatible carrier, wherein formula V is:



R<sup>5</sup> is (i), (ii), or (iii):

(i) a substituted benzene ring having the structure:

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wherein:

X is selected from the group consisting of halogen, CN, CONH<sub>2</sub>, CSNH<sub>2</sub>, CONHalkyl, CSNHalkyl, CON(alkyl)<sub>2</sub>, CSN(alkyl)<sub>2</sub>, CNHNOH, C<sub>1</sub> to C<sub>3</sub> alkoxy, C<sub>1</sub> to C<sub>3</sub> alkyl, NO<sub>2</sub>, C<sub>1</sub> to C<sub>3</sub> perfluoroalkyl, 5 membered heterocyclic ring comprising 1 to 3 heteroatoms, and C<sub>1</sub> to C<sub>3</sub> thioalkyl;

Y is selected from the group consisting of H, halogen, CN, NO<sub>2</sub>, C<sub>1</sub> to C<sub>3</sub> alkoxy, C<sub>1</sub> to C<sub>4</sub> alkyl, and C<sub>1</sub> to C<sub>3</sub> thioalkyl;

(ii) a five membered ring having the structure:



wherein:

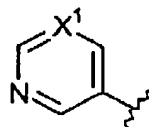
U is O, S, or NR<sup>6</sup>;

R<sup>6</sup> is H, C<sub>1</sub> to C<sub>3</sub> alkyl, or C<sub>1</sub> to C<sub>4</sub> CO<sub>2</sub>alkyl;

X' is selected from the group consisting of halogen, CN, NO<sub>2</sub>, CONH<sub>2</sub>, CSNH<sub>2</sub>, CONHalkyl, CSNHalkyl, CON(alkyl)<sub>2</sub>, CSN(alkyl)<sub>2</sub>, C<sub>1</sub> to C<sub>3</sub> alkyl, and C<sub>1</sub> to C<sub>3</sub> alkoxy;

Y' is selected from the group consisting of H, F, and C<sub>1</sub> to C<sub>4</sub> alkyl;

(iii) a six membered ring having the structure:



wherein:

X<sup>1</sup> is N or CX<sup>2</sup>;

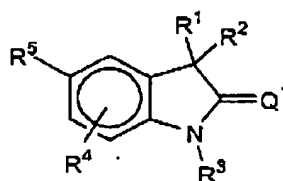
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$X^2$  is halogen, CN,  $\text{CONH}_2$ ,  $\text{CSNH}_2$ ,  $\text{CONHalkyl}$ ,  $\text{CSNHalkyl}$ ,  $\text{CON(alkyl)}_2$ ,  $\text{CSN(alkyl)}_2$  or  $\text{NO}_2$ ;  
or a pharmaceutically acceptable salt, tautomer, metabolite, or prodrug thereof.

18(Original). The method according to claim 17, wherein  $R^5$  is the five membered ring (ii) and U is O or S.

19(Withdrawn). A composition for conditioning the skin of a mammal in need thereof comprising:

- (i) a skin conditioning component; and
- (ii) a compound of formula I, or a tautomer thereof:



I

wherein:

$R^1$  and  $R^2$  are selected from the group consisting of H, alkyl, substituted alkyl, OH, O(alkyl), O(substituted alkyl), O(Acetyl), aryl, substituted aryl, heterocyclic ring, substituted heterocyclic ring, alkylaryl, substituted alkylaryl, alkylheteroaryl, substituted alkylheteroaryl, 1-propynyl, substituted 1-propynyl, 3-propynyl, and substituted 3-propynyl;

or  $R^1$  and  $R^2$  are joined to form a ring selected from the group consisting of  $-\text{CH}_2(\text{CH}_2)_n\text{CH}_2-$ ,  $-\text{CH}_2\text{CH}_2\text{C}(\text{CH}_3)_2\text{CH}_2\text{CH}_2-$ ,  $-\text{O}(\text{CH}_2)_m\text{CH}_2-$ ,  $-\text{O}(\text{CH}_2)_p\text{O}-$ ,  $-\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_2-$ ,  $-\text{CH}_2\text{CH}_2\text{N(H)CH}_2\text{CH}_2-$ , and  $-\text{CH}_2\text{CH}_2\text{N(alkyl)CH}_2\text{CH}_2-$ ;

m is an integer from 1 to 4;

n is an integer from 1 to 5;

p is an integer from 1 to 4;

or  $R^1$  and  $R^2$  form a double bond to  $\text{C}(\text{CH}_3)_2$ , C(cycloalkyl), O, or C(cycloether);



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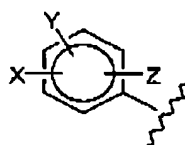
$R^3$  is selected from the group consisting of H, OH,  $NH_2$ ,  $C_1$  to  $C_6$  alkyl, substituted  $C_1$  to  $C_6$  alkyl,  $C_3$  to  $C_6$  alkenyl, substituted  $C_3$  to  $C_6$  alkenyl, alkynyl, substituted alkynyl, and  $COR^A$ ;

$R^A$  is selected from the group consisting of H,  $C_1$  to  $C_3$  alkyl, substituted  $C_1$  to  $C_3$  alkyl,  $C_1$  to  $C_3$  alkoxy, substituted  $C_1$  to  $C_3$  alkoxy,  $C_1$  to  $C_3$  aminoalkyl, and substituted  $C_1$  to  $C_3$  aminoalkyl;

$R^4$  is selected from the group consisting of H, halogen, CN,  $NH_2$ ,  $C_1$  to  $C_6$  alkyl, substituted  $C_1$  to  $C_6$  alkyl,  $C_1$  to  $C_6$  alkoxy, substituted  $C_1$  to  $C_6$  alkoxy,  $C_1$  to  $C_6$  aminoalkyl, and substituted  $C_1$  to  $C_6$  aminoalkyl;

$R^5$  is selected from the group consisting of a), b) and c):

a) a substituted benzene ring having the structure:



X is selected from the group consisting of halogen, OH, CN,  $C_1$  to  $C_3$  alkyl, substituted  $C_1$  to  $C_3$  alkyl,  $C_1$  to  $C_3$  alkoxy, substituted  $C_1$  to  $C_3$  alkoxy,  $C_1$  to  $C_3$  thioalkyl, substituted  $C_1$  to  $C_3$  thioalkyl,  $S(O)alkyl$ ,  $S(O)_2alkyl$ ,  $C_1$  to  $C_3$  aminoalkyl, substituted  $C_1$  to  $C_3$  aminoalkyl,  $NO_2$ ,  $C_1$  to  $C_3$  perfluoroalkyl, substituted  $C_1$  to  $C_3$  perfluoroalkyl, 5 or 6 membered heterocyclic ring comprising 1 to 3 heteroatoms,  $CONH_2$ ,  $CSNH_2$ ,  $CNHNHOH$ ,  $CNH_2NOH$ ,  $CNHNHOH$ ,  $COR^B$ ,  $CSR^B$ ,  $OCOR^B$ , and  $NR^C COR^B$ ;

$R^B$  is selected from the group consisting of H,  $C_1$  to  $C_3$  alkyl, substituted  $C_1$  to  $C_3$  alkyl, aryl, substituted aryl,  $C_1$  to  $C_3$  alkoxy, substituted  $C_1$  to  $C_3$  alkoxy,  $C_1$  to  $C_3$  aminoalkyl, and substituted  $C_1$  to  $C_3$  aminoalkyl;

$R^C$  is H,  $C_1$  to  $C_3$  alkyl, or substituted  $C_1$  to  $C_3$  alkyl;

Y and Z are independently selected from the group consisting of H, halogen, CN,  $NO_2$ ,  $C_1$  to  $C_3$  alkoxy, substituted  $C_1$  to  $C_3$  alkoxy,  $C_1$  to  $C_4$  alkyl, substituted  $C_1$  to  $C_4$  alkyl,  $C_1$  to  $C_3$  thioalkyl, and substituted  $C_1$  to  $C_3$  thioalkyl;

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b) a five or six membered heterocyclic ring comprising 1, 2, or 3 heteroatoms selected from the group consisting of O, S, SO, SO<sub>2</sub> and NR<sup>6</sup> and having one or two independent substituents from the group consisting of H, halogen, CN, NO<sub>2</sub>, C<sub>1</sub> to C<sub>4</sub> alkyl, substituted C<sub>1</sub> to C<sub>4</sub> alkyl, C<sub>1</sub> to C<sub>3</sub> alkoxy, substituted C<sub>1</sub> to C<sub>3</sub> alkoxy, C<sub>1</sub> to C<sub>3</sub> aminoalkyl, substituted C<sub>1</sub> to C<sub>3</sub> aminoalkyl, COR<sup>D</sup>, CSR<sup>D</sup>, and NR<sup>E</sup>COR<sup>D</sup>;

R<sup>D</sup> is H, NH<sub>2</sub>, C<sub>1</sub> to C<sub>3</sub> alkyl, substituted C<sub>1</sub> to C<sub>3</sub> alkyl, aryl, substituted aryl, C<sub>1</sub> to C<sub>3</sub> alkoxy, substituted C<sub>1</sub> to C<sub>3</sub> alkoxy, C<sub>1</sub> to C<sub>3</sub> aminoalkyl, or substituted C<sub>1</sub> to C<sub>3</sub> aminoalkyl;

R<sup>E</sup> is H, C<sub>1</sub> to C<sub>3</sub> alkyl, or substituted C<sub>1</sub> to C<sub>3</sub> alkyl;

R<sup>6</sup> is H, C<sub>1</sub> to C<sub>3</sub> alkyl, substituted C<sub>1</sub> to C<sub>3</sub> alkyl, or C<sub>1</sub> to C<sub>4</sub>CO<sub>2</sub>alkyl; or

c) an indol-4-yl, indol-7-yl or benzo-2-thiophene moiety, wherein said moiety is optionally substituted by from 1 to 3 substituents selected from the group consisting of halogen, alkyl, substituted alkyl, CN, NO<sub>2</sub>, alkoxy, substituted alkoxy, and CF<sub>3</sub>;

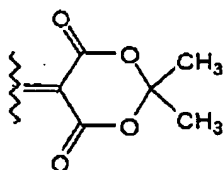
Q<sup>1</sup> is S, NR<sup>7</sup>, or CR<sup>8</sup>R<sup>9</sup>;

R<sup>7</sup> is selected from the group consisting of CN, C<sub>1</sub> to C<sub>6</sub> alkyl, substituted C<sub>1</sub> to C<sub>6</sub> alkyl, C<sub>3</sub> to C<sub>8</sub> cycloalkyl, substituted C<sub>3</sub> to C<sub>8</sub> cycloalkyl, aryl, substituted aryl, heterocyclic ring, substituted heterocyclic ring, acyl, substituted acyl, aroyl, substituted aroyl, SO<sub>2</sub>CF<sub>3</sub>, OR<sup>11</sup>, and NR<sup>11</sup>R<sup>12</sup>;

R<sup>8</sup> and R<sup>9</sup> are independent substituents selected from the group consisting of H, C<sub>1</sub> to C<sub>6</sub> alkyl, substituted C<sub>1</sub> to C<sub>6</sub> alkyl, C<sub>3</sub> to C<sub>8</sub> cycloalkyl, substituted C<sub>3</sub> to C<sub>8</sub> cycloalkyl, aryl, substituted aryl, heterocyclic ring, substituted heterocyclic ring, NO<sub>2</sub>, CN, and CO<sub>2</sub>R<sup>10</sup>;

R<sup>10</sup> is C<sub>1</sub> to C<sub>3</sub> alkyl or substituted C<sub>1</sub> to C<sub>3</sub> alkyl;

or CR<sup>8</sup>R<sup>9</sup> comprise a six membered ring having the structure:



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$R^{11}$  and  $R^{12}$  are independently selected from the group consisting of H, alkyl, substituted alkyl, aryl, substituted aryl, heterocyclic ring, substituted heterocyclic ring, acyl, substituted acyl, aroyl, substituted aroyl, sulfonyl, and substituted sulfonyl; or a pharmaceutically acceptable salt, tautomer, metabolite, or prodrug thereof.

20(Currently Amended). The ~~composition~~ method according to claim 19 22, wherein:

$R^1$  and  $R^2$  are alkyl or substituted alkyl;  
 $R^3$  is H.

21(Currently Amended). The ~~composition~~ method according to claim 19 22, wherein:

$R^1$  and  $R^2$  are joined to form a ring selected from the group consisting of  
-CH<sub>2</sub>(CH<sub>2</sub>)<sub>n</sub>CH<sub>2</sub>-, -CH<sub>2</sub>CH<sub>2</sub>C(CH<sub>3</sub>)<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>-, -O(CH<sub>2</sub>)<sub>m</sub>CH<sub>2</sub>-, -O(CH<sub>2</sub>)<sub>p</sub>O-,  
-CH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>-, -CH<sub>2</sub>CH<sub>2</sub>N(H)CH<sub>2</sub>CH<sub>2</sub>-, and -CH<sub>2</sub>CH<sub>2</sub>N(alkyl)CH<sub>2</sub>CH<sub>2</sub>-;  
 $R^3$  is H.

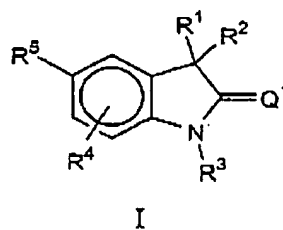
22(Currently Amended). The ~~composition~~ method according to claim 19 22, wherein:

$R^3$  is H;  
 $Q^1$  is S or NR<sup>7</sup>.

23(Currently Amended). A method of conditioning the skin comprising the step of delivering to a mammal in need thereof a composition ~~according to claim~~ comprising:

- (i) a skin conditioning component; and
- (ii) a compound of formula I, or a tautomer thereof;

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wherein:

R<sup>1</sup> and R<sup>2</sup> are selected from the group consisting of H, alkyl, substituted alkyl, OH, O(alkyl), O(substituted alkyl), O(Acetyl), aryl, substituted aryl, heterocyclic ring, substituted heterocyclic ring, alkylaryl, substituted alkylaryl, alkylheteroaryl, substituted alkylheteroaryl, 1-propynyl, substituted 1-propynyl, 3-propynyl, and substituted 3-propynyl;

or R<sup>1</sup> and R<sup>2</sup> are joined to form a ring selected from the group consisting of -CH<sub>2</sub>(CH<sub>2</sub>)<sub>n</sub>CH<sub>2</sub>-, -CH<sub>2</sub>CH<sub>2</sub>C(CH<sub>3</sub>)<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>-, -O(CH<sub>2</sub>)<sub>m</sub>CH<sub>2</sub>-, -O(CH<sub>2</sub>)<sub>p</sub>O-, -CH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>-, -CH<sub>2</sub>CH<sub>2</sub>N(H)CH<sub>2</sub>CH<sub>2</sub>-, and -CH<sub>2</sub>CH<sub>2</sub>N(alkyl)CH<sub>2</sub>CH<sub>2</sub>-;

m is an integer from 1 to 4;

n is an integer from 1 to 5;

p is an integer from 1 to 4;

or R<sup>1</sup> and R<sup>2</sup> form a double bond to C(CH<sub>3</sub>)<sub>2</sub>, C(cycloalkyl), O, or C(cycloether);

R<sup>3</sup> is selected from the group consisting of H, OH, NH<sub>2</sub>, C<sub>1</sub> to C<sub>6</sub> alkyl, substituted C<sub>1</sub> to C<sub>6</sub> alkyl, C<sub>3</sub> to C<sub>6</sub> alkenyl, substituted C<sub>3</sub> to C<sub>6</sub> alkenyl, alkynyl, substituted alkynyl, and COR<sup>A</sup>;

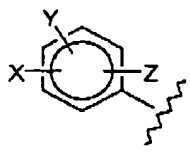
R<sup>A</sup> is selected from the group consisting of H, C<sub>1</sub> to C<sub>3</sub> alkyl, substituted C<sub>1</sub> to C<sub>3</sub> alkyl, C<sub>1</sub> to C<sub>3</sub> alkoxy, substituted C<sub>1</sub> to C<sub>3</sub> alkoxy, C<sub>1</sub> to C<sub>3</sub> aminoalkyl, and substituted C<sub>1</sub> to C<sub>3</sub> aminoalkyl;

R<sup>4</sup> is selected from the group consisting of H, halogen, CN, NH<sub>2</sub>, C<sub>1</sub> to C<sub>6</sub> alkyl, substituted C<sub>1</sub> to C<sub>6</sub> alkyl, C<sub>1</sub> to C<sub>6</sub> alkoxy, substituted C<sub>1</sub> to C<sub>6</sub> alkoxy, C<sub>1</sub> to C<sub>6</sub> aminoalkyl, and substituted C<sub>1</sub> to C<sub>6</sub> aminoalkyl;

R<sup>5</sup> is selected from the group consisting of a), b) and c):

a) a substituted benzene ring having the structure:

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X is selected from the group consisting of halogen, OH, CN, C<sub>1</sub> to C<sub>3</sub> alkyl, substituted C<sub>1</sub> to C<sub>3</sub> alkyl, C<sub>1</sub> to C<sub>3</sub> alkoxy, substituted C<sub>1</sub> to C<sub>3</sub> alkoxy, C<sub>1</sub> to C<sub>3</sub> thioalkyl, substituted C<sub>1</sub> to C<sub>3</sub> thioalkyl, S(O)alkyl, S(O)<sub>2</sub>alkyl, C<sub>1</sub> to C<sub>3</sub> aminoalkyl, substituted C<sub>1</sub> to C<sub>3</sub> aminoalkyl, NO<sub>2</sub>, C<sub>1</sub> to C<sub>3</sub> perfluoroalkyl, substituted C<sub>1</sub> to C<sub>3</sub> perfluoroalkyl, 5 or 6 membered heterocyclic ring comprising 1 to 3 heteroatoms, CONH<sub>2</sub>, CSNH<sub>2</sub>, CNHNHOH, CNH<sub>2</sub>NOH, CNHNOH, COR<sup>B</sup>, CSR<sup>B</sup>, OCOR<sup>B</sup>, and NR<sup>C</sup>COR<sup>B</sup>.

R<sup>B</sup> is selected from the group consisting of H, C<sub>1</sub> to C<sub>3</sub> alkyl, substituted C<sub>1</sub> to C<sub>3</sub> alkyl, aryl, substituted aryl, C<sub>1</sub> to C<sub>3</sub> alkoxy, substituted C<sub>1</sub> to C<sub>3</sub> alkoxy, C<sub>1</sub> to C<sub>3</sub> aminoalkyl, and substituted C<sub>1</sub> to C<sub>3</sub> aminoalkyl;

R<sup>C</sup> is H, C<sub>1</sub> to C<sub>3</sub> alkyl, or substituted C<sub>1</sub> to C<sub>3</sub> alkyl;

Y and Z are independently selected from the group consisting of H, halogen, CN, NO<sub>2</sub>, C<sub>1</sub> to C<sub>3</sub> alkoxy, substituted C<sub>1</sub> to C<sub>3</sub> alkoxy, C<sub>1</sub> to C<sub>4</sub> alkyl, substituted C<sub>1</sub> to C<sub>4</sub> alkyl, C<sub>1</sub> to C<sub>3</sub> thioalkyl, and substituted C<sub>1</sub> to C<sub>3</sub> thioalkyl;

b) a five or six membered heterocyclic ring comprising 1, 2, or 3 heteroatoms selected from the group consisting of O, S, SO, SO<sub>2</sub> and NR<sup>6</sup> and having one or two independent substituents from the group consisting of H, halogen, CN, NO<sub>2</sub>, C<sub>1</sub> to C<sub>4</sub> alkyl, substituted C<sub>1</sub> to C<sub>4</sub> alkyl, C<sub>1</sub> to C<sub>3</sub> alkoxy, substituted C<sub>1</sub> to C<sub>3</sub> alkoxy, C<sub>1</sub> to C<sub>3</sub> aminoalkyl, substituted C<sub>1</sub> to C<sub>3</sub> aminoalkyl, COR<sup>D</sup>, CSR<sup>D</sup>, and NR<sup>E</sup>COR<sup>D</sup>;

R<sup>D</sup> is H, NH<sub>2</sub>, C<sub>1</sub> to C<sub>3</sub> alkyl, substituted C<sub>1</sub> to C<sub>3</sub> alkyl, aryl, substituted aryl, C<sub>1</sub> to C<sub>3</sub> alkoxy, substituted C<sub>1</sub> to C<sub>3</sub> alkoxy, C<sub>1</sub> to C<sub>3</sub> aminoalkyl, or substituted C<sub>1</sub> to C<sub>3</sub> aminoalkyl;

R<sup>E</sup> is H, C<sub>1</sub> to C<sub>3</sub> alkyl, or substituted C<sub>1</sub> to C<sub>3</sub> alkyl;

R<sup>6</sup> is H, C<sub>1</sub> to C<sub>3</sub> alkyl, substituted C<sub>1</sub> to C<sub>3</sub> alkyl, or C<sub>1</sub> to C<sub>4</sub>CO<sub>2</sub>alkyl; or

c) an indol-4-yl, indol-7-yl or benzo-2-thiophene moiety, wherein said moiety is optionally substituted by from 1 to 3 substituents selected from the group

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consisting of halogen, alkyl, substituted alkyl, CN, NO<sub>2</sub>, alkoxy, substituted alkoxy, and CF<sub>3</sub>;

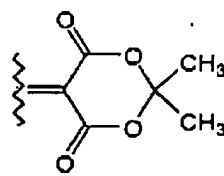
Q<sup>1</sup> is S, NR<sup>7</sup>, or CR<sup>8</sup>R<sup>9</sup>;

R<sup>7</sup> is selected from the group consisting of CN, C<sub>1</sub> to C<sub>6</sub> alkyl, substituted C<sub>1</sub> to C<sub>6</sub> alkyl, C<sub>3</sub> to C<sub>8</sub> cycloalkyl, substituted C<sub>3</sub> to C<sub>8</sub> cycloalkyl, aryl, substituted aryl, heterocyclic ring, substituted heterocyclic ring, acyl, substituted acyl, aroyl, substituted aroyl, SO<sub>2</sub>CF<sub>3</sub>, OR<sup>11</sup>, and NR<sup>11</sup>R<sup>12</sup>;

R<sup>8</sup> and R<sup>9</sup> are independent substituents selected from the group consisting of H, C<sub>1</sub> to C<sub>6</sub> alkyl, substituted C<sub>1</sub> to C<sub>6</sub> alkyl, C<sub>3</sub> to C<sub>8</sub> cycloalkyl, substituted C<sub>3</sub> to C<sub>8</sub> cycloalkyl, aryl, substituted aryl, heterocyclic ring, substituted heterocyclic ring, NO<sub>2</sub>, CN, and CO<sub>2</sub>R<sup>10</sup>;

R<sup>10</sup> is C<sub>1</sub> to C<sub>3</sub> alkyl or substituted C<sub>1</sub> to C<sub>3</sub> alkyl;

or CR<sup>8</sup>R<sup>9</sup> comprise a six membered ring having the structure:



R<sup>11</sup> and R<sup>12</sup> are independently selected from the group consisting of H, alkyl, substituted alkyl, aryl, substituted aryl, heterocyclic ring, substituted heterocyclic ring, acyl, substituted acyl, aroyl, substituted aroyl, sulfonyl, and substituted sulfonyl; or a pharmaceutically acceptable salt, tautomer, metabolite, or prodrug thereof.

24(Currently Amended). The method according to ~~claims~~ claim 23 wherein said compound of formula I is selected from the group consisting of 5'-(3-Chlorophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'(1'H)-thione, 3-(1',2'-Dihydro-2'-thioxospiro[cyclohexane-1,3'-[3H]indol]-5'-yl)benzonitrile, 4-1',2'-Dihydro-2'-thioxospiro[cyclohexane-1,3'-[3H]indol]-5'-yl)-2-thiophenecarbonitrile, 3-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-5-fluorobenzonitrile, 4-Methyl-5-(1,2-dihydro-2-thioxospiro[cyclohexane-1,3-[3H]-indol]-5-yl)-2-thiophenethioamide, 5-(1,2-

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Dihydro-2-thioxospiro[cyclopentane-1,3-[3H]indol]-5'-yl)-1H-pyrrole-2-carbonitrile, 5-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-1-(tert-butoxycarbonyl)-pyrrole-2-carbonitrile, 5-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-1-H-pyrrole-2-carbonitrile, 5-(2'-thioxospiro[cyclohexane-1,3'-[3H]indol]-5'-yl)-1-methyl-pyrrole-2-carbonitrile, 5-(1,2-Dihydro-2-thioxospiro[cyclopentane-1,3-[3H]indol]-5-yl)-3thiophenecarbonitrile, 5-(1,2-Dihydro-thioxospiro[cyclopentane-1,3-[3H]indol]-5-yl)-2thiophenecarbonitrile, 5-(3-Fluoro-4-methoxyphenyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 5-(2-Amino-5-pyrimidinyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 3-(1,2-Dihydro-2-thioxospiro[cyclopentane-1,3-[3H]indol]-5-yl)-5-fluorobenzonitrile, 5-(3-chlorophenyl)-3,3-dimethyl-1,3-dihydro-2H-indole-2-thione, 3-Benzyl-5-(3-chlorophenyl)-3-methyl-1,3-dihydro-2H-indole-2-thione, 4-(3,3-dimethyl-2-thioxo-2,3-dihydro-1H-indol-5-yl)-2-furonitrile, 5-(3-methoxyphenyl)-3,3-dimethyl-1,3-dihydro-2H-indole-2-thione, 3-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-4-fluorobenzonitrile, 5-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-3-pyridinecarbonitrile, 5-(3,4-Difluorophenyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 5-(5-Chloro-2-thienyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 5-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-3-furancarbonitrile, 5-(3-Chloro-4-fluorophenyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 5-(3-Chloro-5-fluorophenyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 5-(3,5-Difluorophenyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 5-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-4-propyl-2-thiophenecarbonitrile, 5-(3-Fluoro-4-nitrophenyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 4-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-2-furancarbonitrile, 5''-(3-Chlorophenyl)spiro[cyclobutane-1,3''-[3H]indol]-2''(1''H)-thione, 5''-(2-Chlorophenyl)spiro[cyclohexane-1,3''-[3H]indol]-2''(1''H)-thione, 5''-(4-Chlorophenyl)spiro[cyclohexane-1,3''-[3H]indol]-2''(1''H)-thione, 5-(1'',2''-Dihydro-2''-thioxospiro[cyclohexane-1,3''-[3H]indol]-5''-yl)-4-methyl-2-thiophenecarbonitrile, 5-(1'',2''-Dihydro-2''-thioxospiro[cyclohexane-1,3''-[3H]indol]-5''-yl)-2-thiophenecarbonitrile, 5''-(3-Fluorophenyl)spiro[cyclohexane-1,3''-[3H]indol]-

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2''(1''H)-thione, 5-(3-Hydroxyphenyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 5-(3-chlorophenyl)-3,3-diethyl-1,3-dihydro-2H-indole-2-thione, 5-(4-Fluoro-3-(trifluoromethyl)phenyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 4-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-2-fluorobenzonitrile, 5-(1,2-Dihydro-2-thioxospiro[cyclohexane-1,3-[3H]indol]-5-yl)-4-n-butyl-2-thiophenecarbonitrile, 5-(3-Fluoro-5-methoxyphenyl)spiro[cyclohexane-1,3-[3H]indol]-2(1H)-thione, 5-(3-Chlorophenyl)-N-hydroxyspiro[cyclohexane-1,3'-[3H]indol]-2-amine, N-(Acetyloxy)-5'-(3-chlorophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2''amine, 5'-(3-Fluorophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'(1'H)-one oxime, 5'-(2-Fluorophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'(1'H)-one oxime, 5'-(4-Fluorophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'(1'H)-one oxime, 5'-(3,4-difluorophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'(1'H)-one oxime, 5'-(3-methoxyphenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'(1'H)-one oxime, 5'-(3-nitrophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'(1'H)-one oxime, 5'-(3-cyanophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'(1'H)-one oxime, 3-(1',2'-Dihydro-2'-(hydroxyimino)spiro[cyclohexane-1,3'-[3H]indol]-5'-yl)-5-fluorobenzonitrile, 5-(Spiro[cyclohexane-1,3'-[3H]indol]-2'-(hydroxyimino)-5'-yl)-4-methyl-2-thiophenecarbonitrile, 5-(Spiro[cyclohexane-1,3'-[3H]indol]-2'-(hydroxyimino)-5'-yl)-2-thiophenecarbonitrile, 4-(Spiro[cyclohexane-1,3'-[3H]indol]-2'-(hydroxyimino)-5'-yl)-2-thiophenecarbonitrile, 5-(Spiro[cyclohexane-1,3'-[3H]indol]-2'-(hydroxyimino)-5'-yl)-1H-pyrrole-1-methyl-2-carbonitrile, 5-(spiro[cyclohexane-1,3'-[3H]indol]-2'-(hydroxyimino)-5'-yl)-1H-pyrrole-2-carbonitrile, 4-(Spiro[cyclohexane-1,3'-[3H]indol]-2'(acetoxylimino)-5'-yl)-2-thiophenecarbonitrile, 3-Fluoro-N'-hydroxy-5-(2'-(hydroxyamino)spiro[cyclohexane-1,3'-[3H]indol]-5'-yl)benzenecarboximidamide, N'-Hydroxy-5-(spiro[cyclohexane-1,3'-[3H]indol]-2'-(hydroxyimino)-5'-yl)-4-methyl-2-thiophenecarboximidamide, N'-Hydroxy-4-(spiro[cyclohexane-1,3'-[3H]indol]-2'-hydroxyimino)-5'-yl-2-thiophenecarboximidamide, N'-Hydroxy-5-(spiro[cyclohexane-1,3'-[3H]indol]-2'-(hydroxyimino)-5'-yl)-2-thiophenecarboxidamide,



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5'-(3-Chlorophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'-ylidenecyanamide, 5'-(3-Cyano-5-fluorophenyl)spiro[cyclohexane-1,3'-[3H]indol]-2'-ylidenecyanamide, 5'-(5-Cyano-1H-pyrrol-2-yl)spiro[cyclohexane-1,3'-[3H]indol]-2'-ylidenecyanamide, 5'-(5-Cyano-thiophen-2-yl)spiro[cyclohexane-1,3'-[3H]indol]-2'-ylidenecyanamide, 5'-(5-Cyano-3-methyl-thiophen-2-yl)spiro[cyclohexane-1,3'-[3H]indol]-2'-ylidenecyanamide, 5'-(5-Cyano-thiophen-3-yl)spiro[cyclohexane-1,3'-[3H]indol]-2'-ylidenecyanamide, 3-(2'-Cyanomethylene-spiro[cyclohexane-1,3'-[3H]indol]-5'-yl)-5-fluoro-benzonitrile, 5-(2'-Cyanomethylene-spiro[cyclohexane-1,3'-[3H]indol]-5'-yl)-1H-pyrrole-2-carbonitrile, 5-(2'-Cyanomethylene-spiro[cyclohexane-1,3'-[3H]indol]-5'-yl)-1-methyl-1H-pyrrole-2-carbonitrile, 5-(2'-Cyanomethylene-spiro[cyclohexane-1,3'-[3H]indol]-5'-yl)-thiophene-2-carbonitrile, 5-(2'-Cyanomethylene-spiro[cyclohexane-1,3'-[3H]indol]-5'-yl)-4-methyl-thiophene-2-carbonitrile, and 4-(2'-Cyanomethylene-spiro[cyclohexane-1,3'-[3H]indol]-5'-yl)-thiophene-2-carbonitrile, or a pharmaceutically acceptable salt, tautomer, metabolite, or prodrug thereof.

25(Original). The method according to claim 23, wherein said compound is 5'-(5-Cyano-1-methyl-1H-pyrrol-2-yl)spiro[cyclohexane-1,3'-[3H]indol]-2'-ylidenecyanamide, or a pharmaceutically acceptable salt, tautomer, metabolite, or prodrug thereof.

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